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EXAMINER

WARTALOWICZ, PAUL A

ART UNIT	PAPER NUMBER
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1793

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents@bakerlaw.com

Office Action Summary	Application No. 10/764,797	Applicant(s) SHAN ET AL.	
	Examiner PAUL A. WARTALOWICZ	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-23 and 25-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-23 and 25-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Withdrawn Rejections

The rejections under 35 USC 112 1st paragraph have been withdrawn.

Response to Arguments

Applicant's arguments filed 8/11/09 have been fully considered but they are not persuasive.

Applicant has amended claim 25 to recite "combining a mixture consisting of an inorganic oxide".

As recited in the Office Action mailed September 16, 2009, claims 1 and 14 recite "combining a mixture...of **a source of an inorganic oxide** with an organic..." It appears that a source of an inorganic oxide can include any mixture that can produce an inorganic oxide, i.e. an aqueous mixture of an inorganic salt. As source has not been defined in the specification, this common usage meaning of source is a valid interpretation.

Any special meaning assigned to a term "must be sufficiently clear in the specification that any departure from common usage would be so understood by a person of experience in the field of the invention." MPEP 2111.01 [R-5] (IV).

Applicant has not proffered any argument rebutting this rationale. Therefore, the rejections under 35 U.S.C. 103(a) of claims 1-3, 5-23, and 25-28 are maintained.

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It is noted that in claims 1,14,25, step b, "reacting ... at a complexation temperature formed during the reaction" appears to be ungrammatical and it appears that "formed during the reaction" was intended to be deleted.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3, 5, 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Overbeek (US 2002/0111522) in view of Pinnavaia et al. (U.S. 6410473).

Overbeek teaches a method of making zeolites [0001] wherein alumina-silica is combined with TEAOH and heated at a temperature of 157°C (heating at this temperature in a circulating air furnace would inherently remove water produced during the reaction), [0042], [0043] and washing the solid formed with ample water and filtering [this disclosure appears to teach dissolving at least one complex in water and

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decomposing at least part of the complex, [0043] wherein the filtered product is heated to 200°C at a ramp of 5°C/min and then heated to a temperature of 650°C at a temperature ramp of 5°C/min (it appears that this disclosure teaches aging, drying, and calcining as specified by the claims which would inherently decompose part of the complex) [0044].

Overbeek fails to teach recovering and recycling at least a major portion of the organic complexing and pore-forming agent from the inorganic oxide framework by solvent extraction with the claimed solvent.

Pinnavaia et al., however, teach a method for making a mesoporous inorganic oxide (col. 1) wherein it is known to extract a templating agent with water for the purpose of recycling the templating agent (col. 8-9).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide extracting a templating agent with water in Overbeek in order to recycle the templating agent (col. 8-9) as taught by Pinnavaia.

Regarding the limitation of combining a mixture consisting of a source of an inorganic oxide with an organic complexing and pore forming agent, it appears that a source of an inorganic oxide can include any mixture that can produce an inorganic oxide, i.e. an aqueous mixture of an inorganic salt. As source has not been defined in the specification, this common usage meaning of source is a valid interpretation.

Regarding claim 21; the limitation "above atmospheric pressure" appears to be open to pressures very close to atmospheric such that the prior art range is so close

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that one skilled in the art would have expected it to have the same properties. *Titanium Metals Corp. v. Banner*, 227 USPQ 773.

Claims 6-11, 22, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Overbeek (US 2002/0111522) in view of Pinnavaia et al. (U.S. 6410473) and Cao (U.S. 6660682).

Overbeek in view of Pinnavaia teaches a process as described above in claim 1.

They fail to teach that a preformed zeolite is added to the aqueous mixture.

Cao, however, teaches a method of making a molecular sieve (col. 1) wherein a zeolite material is added to an aqueous solution containing silica, alumina, and a templating agent for the purpose of seeding the solution that produces a molecular sieve (col. 9).

As Cao teaches a zeolite material is added to an aqueous solution containing silica, alumina, and a templating agent for the purpose of seeding the solution that produces a molecular sieve, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to add a zeolite material to the aqueous solution of Overbeek in order to seed a mixture from which a molecular sieve is produced.

Overbeek fails to teach that the inorganic oxide source is magnesium oxide, aluminum hydroxide, or fumed silica.

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Cao, however, teaches that sieves typically include magnesium oxide (col. 6) and fumed silica and aluminum hydroxide are used when producing a molecular sieve (col. 7,8).

As Cao teaches that sieves typically include magnesium oxide and fumed silica and aluminum hydroxide are used when producing a molecular sieve, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide magnesium oxide, fumed silica, and aluminum hydroxide as part of the inorganic oxide source in the process of Overbeek because these sources are well known inorganic oxide sources in the molecular sieve art.

Overbeek fails to teach that the templating agent is triethanolamine.

Cao, however, teaches that the templating agent is triethanolamine (col. 8).

As Cao teaches that the templating agent is triethanolamine, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to use triethanolamine as the templating agent in the process of Overbeek as a substitute for TEOH as both templating agents comprise an ammonium group.

Claims 12,13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Overbeek (US 2002/0111522) in view of Pinnavaia et al. (U.S. 6410473) further in view of Ozin (US 5320822).

Overbeek in view of Pinnavaia teaches a process as described above in claim 1.

They fail to teach using ethylene glycol as the solvent.

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Ozin et al., however, teach a method of making a molecular sieve (col. 1) wherein ethylene glycol is combined with the reaction mixture comprising an amine-containing templating agent for the purpose of providing a medium for crystal formation that does not interfere with the reaction (col. 6-7).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to provide ethylene glycol is combined with the reaction mixture comprising an amine-containing templating agent in Overbeek in order to provide a medium for crystal formation that does not interfere with the reaction as taught by Ozin.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Overbeek (US 2002/0111522) in view of Cao (U.S. 6660682).

Overbeek teaches a process as described above in claim 1.

Overbeek fails to teach that a preformed zeolite is added to the aqueous mixture.

Cao, however, teaches a method of making a molecular sieve (col. 1) wherein a zeolite material is added to an aqueous solution containing silica, alumina, and a templating agent for the purpose of seeding the solution that produces a molecular sieve (col. 9).

As Cao teaches a zeolite material is added to an aqueous solution containing silica, alumina, and a templating agent for the purpose of seeding the solution that produces a molecular sieve, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to add a zeolite material to the aqueous solution of Overbeek in order to seed a mixture from which a molecular sieve is produced.

Regarding the limitation of the claimed X-ray diffraction pattern, it appears that the prior art of record teaches a substantially similar process as that of the claimed invention such that the properties of the product made by said prior art process are substantially similar to the properties of the product made by the claimed process.

Regarding the limitation of combining a mixture consisting of a source of an inorganic oxide with an organic complexing and pore forming agent, it appears that a source of an inorganic oxide can include any mixture that can produce an inorganic oxide, i.e. an aqueous mixture of an inorganic salt. As source has not been defined in the specification, this common usage meaning of source is a valid interpretation.

Claims 25,28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Overbeek (US 2002/0111522) in view of Ozin (US 5320822).

Overbeek teaches a method of making zeolites [0001] wherein alumina-silica is combined with TEAOH and heated at a temperature of 157°C (heating at this temperature in a circulating air furnace would inherently remove water produced during the reaction), [0042], [0043] and washing the solid formed with ample water and filtering (this disclosure appears to teach dissolving at least one complex in water and decomposing at least part of the complex), [0043] wherein the filtered product is heated to 200°C at a ramp of 5°C/min and then heated to a temperature of 650°C at a temperature ramp of 5°C/min (it appears that this disclosure teaches aging, drying, and calcining as specified by the claims which would inherently decompose part of the complex), [0044].

Overbeek fail to teach using ethylene glycol as the solvent.

Ozin et al., however, teach a method of making a molecular sieve (col. 1) wherein ethylene glycol is combined with the reaction mixture comprising an amine-containing templating agent for the purpose of providing a medium for crystal formation that does not interfere with the reaction (col. 6-7).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to provide ethylene glycol is combined with the reaction mixture comprising an amine-containing templating agent in Overbeek in order to provide a medium for crystal formation that does not interfere with the reaction as taught by Ozin.

Regarding the limitation of the claimed X-ray diffraction pattern, it appears that the prior art of record teaches a substantially similar process as that of the claimed invention such that the properties of the product made by said prior art process are substantially similar to the properties of the product made by the claimed process.

Regarding the limitation of combining a mixture consisting of a source of an inorganic oxide with an organic complexing and pore forming agent, it appears that a source of an inorganic oxide can include any mixture that can produce an inorganic oxide, i.e. an aqueous mixture of an inorganic salt. As source has not been defined in the specification, this common usage meaning of source is a valid interpretation.

Claims 26,27 rejected under 35 U.S.C. 103(a) as being unpatentable over Overbeek (US 2002/0111522) in view of Ozin (US 5320822) and Cao (U.S. 6660682).

Overbeek in view of Ozin teaches a method as described above in claim 25.

They fail to teach using ethylene glycol as the solvent.

Ozin et al., however, teach a method of making a molecular sieve (col. 1) wherein ethylene glycol is combined with the reaction mixture comprising an amine-containing templating agent for the purpose of providing a medium for crystal formation that does not interfere with the reaction (col. 6-7).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to provide ethylene glycol is combined with the reaction mixture comprising an amine-containing templating agent in Overbeek in order to provide a medium for crystal formation that does not interfere with the reaction as taught by Ozin.

Overbeek fails to teach that the templating agent is triethanolamine

Cao, however, teaches that the templating agent is triethanolamine (col. 8).

As Cao teaches that the templating agent is triethanolamine, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to use triethanolamine as the templating agent in the process of Overbeek as a substitute for TEAOH as both templating agents are amines.

Regarding claim 27, Ozin teaches the glycol solvent as described above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAUL A. WARTALOWICZ whose telephone number is (571)272-5957. The examiner can normally be reached on 8:30-6 M-Th and 8:30-5 on Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Paul Wartalowicz
April 10, 2010

/Steven Bos/
Primary Examiner, AU 1793